

## WEST Search History

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File: USPT

Jul 16, 2002

DOCUMENT-IDENTIFIER: US 6419946 B1

TITLE: Nanoemulsion based on mixed esters of a fatty acid or of a fatty alcohol, of a carboxylic acid and of a glycerol and its uses in the cosmetics, dermatological and/or ophthalmological fields

Abstract Text (1):

A nanoemulsion, the oil globules of which have a number-average size of less than 100 nm, comprising a surfactant chosen from mixed esters of a fatty acid or of a fatty alcohol, of a carboxylic acid and of glycerol and at least one oil having a molecular weight of greater than 400, the ratio by weight of the amount of oily phase to the amount of surfactant ranging from 2 to 10. The nanoemulsion may be used in, for example, the cosmetics and dermatological fields, in particular for moisturizing the skin and/or mucous membranes, as well as for treating the hair, and in the ophthalmological field, as an eye lotion for treating the eyes.

Brief Summary Text (4):

The invention also relates to a process for the preparation of the said nanoemulsion and to its uses in the cosmetics, dermatological and/or ophthalmological fields. This nanoemulsion is stable on storage and can comprise large amounts of oil while retaining good transparency and while having good cosmetic properties.

Brief Summary Text (26):

Mention may be made, as examples of mixed esters which can be used in the nanoemulsion of the invention, of the mixed ester of glycerol and of the mixture of citric, lactic, linoleic and oleic acids (CTFA name: Glyceryl citrate/lactate/linoleate/oleate) sold by Huls under the name Imwitor 375; the mixed ester of succinic acid and of isostearyl alcohol with glycerol (CTFA name: Isostearyl diglyceryl succinate) sold by Huls under the name Imwitor 780 K; the mixed ester of citric acid and of stearic acid with glycerol (CTFA name: Glyceryl stearate citrate) sold by Huls under the name Imwitor 370; or the mixed ester of lactic acid and of stearic acid with glycerol (CTFA name: Glyceryl stearate lactate) sold by Danisco under the name Lactodan B30 or Rylo LA30. Use may be made of one or more mixed esters in the nanoemulsion of the invention.

Brief Summary Text (50):

The nanoemulsions defined above can constitute compositions for topical use and in particular cosmetic or dermatological compositions. They can also be used as ophthalmic vehicles.

Brief Summary Text (53):

The nanoemulsions of the invention can comprise water-soluble or fat-soluble active principles having a cosmetic, dermatological or ophthalmic activity. The fat-soluble active principles are in the oily globules of the emulsion, whereas the water-soluble active principles are in the aqueous phase of the emulsion. Mention may be made, by way of examples of active principles, of vitamins, such as vitamin E, and their derivatives and in particular their esters, provitamins, such as panthenol, humectants and sun-screen agents.

Brief Summary Text (55):

The nanoemulsions in accordance with the invention can be provided in the form of a lotion, serum, cream, milk or toilet water and can comprise adjuvants commonly used in the cosmetics, dermatological and ophthalmic fields, such as, for example, gelling agents, preservatives, antioxidants and fragrances. They can also be

provided in the form of an eye lotion, in particular for ophthalmological applications.

Brief Summary Text (59):

Another subject-matter of the invention is therefore the cosmetic use of the nanoemulsion as defined above for caring for, treating and/or making up the skin, face and/or scalp.

Brief Summary Text (61):

Another subject-matter of the invention is therefore the cosmetic use of the nanoemulsion as defined above for caring for and/or treating the hair.

Brief Summary Text (63):

Another subject-matter of the invention is therefore a cosmetic process for caring for and/or moisturizing the skin, mucous membranes and/or scalp, characterized in that a nanoemulsion as defined above is applied to the skin, mucous membranes and/or scalp.

Brief Summary Text (65):

Regarding the uses described above, one skilled in the art will recognize that the compositions of the inventions are to be applied using amounts and techniques customary for the dermatological and cosmetic fields.

CLAIMS:

18. The nanoemulsion of claim 1, further comprising a cosmetic, dermatological or ophthalmological active agent.

21. The nanoemulsion of claim 1, wherein the surfactant is glyceryl stearate citrate.